

ELECTRICAL TECHNICIAN

DEFINITION

Under general direction of the Water Production Supervisor, inspects, tests, programs, services, troubleshoots, and completes preventative maintenance tasks on electrical and instrumentation equipment; performs a variety of technical duties, including monitoring electrical equipment; processes controls and logical circuitry; and performs other job-related duties, as assigned .

DISTINGUISHING CHARACTERISTICS

This is a journey level position, responsible for electrical troubleshooting and repair in a potable water industrial setting, working under the supervision of the Water Production Supervisor. Work is performed under general supervision while following established policies, procedures, and regulations.

ESSENTIAL DUTIES AND RESPONSIBILITIES

Installs, maintains, and repairs 3 phase electrical motors, controls, and related equipment; maintains, troubleshoots, and repairs 480 volt motors, control centers, and de-energized higher voltage equipment; proficiency in schematics and Ladder Logic diagrams; maintains and repairs engine generators; performs work on associated control circuit equipment, ranging from 24 ma SCADA (Supervisory Control and Data Acquisition) panels to 480 volts AC; tests systems including digital meters; ohm meters, amperage probes, high potential testers, calibrators, and data recorders; installs, maintains, and repairs 110 and 220 volt building circuits and related equipment; requisitions parts and supplies; maintains records and prepares reports; oversees and inspects work performed by outside vendors; maintains electrical pneumatic and electronic controls, alarm and telemetry systems, programmable controllers, and related equipment; Inspects, operates, tests, and maintains a variety of water well and pumping equipment and water storage facilities, including pumps, air compressors, disinfection equipment, telemetry system, emergency systems, pipe systems, and water storage tanks; operates emergency-power generation equipment; performs a variety of related welding, carpentry, pipe fitting, valve repair, and cement work; measures static and pumping water levels; may participate in emergency call duty on a rotation basis at the District's discretion ; adheres to safety standards as prescribed in the *Injury and Illness Prevention Plan*; may cross-train with other divisions; utilizes computer software programs competently; communicates effectively, both orally and in writing; routinely adheres to and maintains a positive attitude; maintains effective work relationships with supervisor, fellow City employees, customers, and outside agencies; operates vehicles and equipment in a safe and efficient manner; and performs related duties and responsibilities, as required.

EMPLOYMENT STANDARDS

Training & Experience - Graduation from high school, or GED equivalent, college-level course work in electrical troubleshooting and repair, and five to six years of responsible experience with low voltage equipment in a potable water industrial setting.

Knowledge & Abilities - **Knowledge of:** National Electrical Code (NEC) standards and Cal/OSHA codes; programmable Logic Controllers and Ladder Logic; schematics and Ladder Logic diagrams; calibration methods and standards; safe and proper use of various hand and power tools, test meters, and equipment to troubleshoot, repair, adjust, and perform preventative maintenance on pneumatic and electronic process controls, measurement systems, instrumentation systems, electronic meters, programmable controllers, and related equipment; and Control Microsystems ScadaPack programming, troubleshooting, and repair.

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Ability to: Demonstrate knowledge of principles and techniques in troubleshooting, maintaining, and repairing electrical equipment; function independently without immediate supervision; interpret plans, drawings, and specifications; design, install, test, adjust, modify, and maintain digital and logic circuitry, microprocessor controlled devices and elements, such as programmable logic controllers, process control equipment, telemetry devices, recorders, sensors, alarms, and controllers on water process instruments and devices; perform corrective maintenance by inspecting equipment, checking voltage and amperage, tightening and cleaning equipment, and locating potential problems; perform electrical circuit installation for additions or modifications by bending and installing conduit, pulling wire, and wiring circuits as shown on blueprints and testing systems for proper installation; recognize malfunctioning equipment and use advanced troubleshooting met; interpret computer logic diagrams, programming guides, electrical drawings, control loop diagrams, schematics, blue prints, maintenance manuals, technical bulletins, ladder diagrams, troubleshooting guides and preventive maintenance instructions; effectively present instructions and information in writing and verbally to coworkers, the general public, and outside agencies; use patience, tact, diplomacy, and courtesy in dealing with the public and employees; routinely adhere to and maintain a positive attitude; establish and maintain effective working relationships with those contacted in the course of work, including City and other government officials, community groups, and the general public; apply safe work practices; and operate vehicles and equipment in a safe and efficient manner.

Licenses & Certificates - Must possess a valid, unrestricted Class "C" California driver's license. Must possess a California Department of Health Services Water Distribution Operator Grade 1 Certificate within two years of hire, and must possess a Water Treatment Operator Grade 1 Certificate within two years of hire.

WORKING CONDITIONS

Work is performed in an indoor/outdoor environment. Incumbent shall be exposed to those conditions normally encountered in an indoor/outdoor environment. Physical demands are light to moderate, consisting primarily of sitting, using hands and fingers to handle or feel objects, tools, or controls, sitting and reaching with hands and arms, standing, walking, stooping, kneeling, crouching, and crawling. Incumbent must occasionally lift and/or move up to 100 pounds, and occasionally move up to 160 pounds, utilizing a hand dolly. Incumbent is occasionally exposed to electrical shock. Incumbent wears personal protection-protective footwear. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus. Incumbent must be able to hear in the normal range, with or without correction, communicate verbally and in written form with great facility, and must be able to be understood. Incumbent must have the stamina to work long hours and overtime, if assigned, and must be willing to work an irregular schedule, which may include weekends, holidays, evenings, and/or varying shifts.

APPROVED: 
DIRECTOR OF HUMAN RESOURCES

DATE: March 14, 2008